UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,897	09/16/2003	Gail A. Alverson	324758001US3	4520

25096   7590   06/17/2004

PERKINS COIE LLP
PATENT-SEA
P.O. BOX 1247
SEATTLE, WA 98111-1247

EXAMINER
TANG, KENNETH

ART UNIT	PAPER NUMBER
2127	

DATE MAILED: 06/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _12/29/03_.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
    closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-23_ is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) _1-23_ is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All   b) ☐ Some * c) ☐ None of:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. _____.
    3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
       application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _12/29/03_.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-23 are presented for examination.

Specification

2.   Applicant is requested to update the introductory paragraph of the specification to replace

the application number with the US patent number, if applicable.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3.   Claim 9 recites the limitation "the operating" in line 2. There is insufficient antecedent

basis for this limitation in the claim.

4.   Claim 13 is rejected for the same reasons as stated in the rejection of claim 9 above.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5.   Claims 7-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Hogle et al. (hereinafter Hogle) (US 6,560,626 B1).

6.   As to claim 7, Hogle teaches a method in a computer system for assigning a processor resource to a thread of a task, the method comprising:

under control of a thread of the task, invoking an operating system call that will block and wait for the occurrence of an event *(col. 1, lines 33-67)*; and

under control of the operating system, when the call is blocked, invoking a routine of the task so that the routine can assign the processor resource to another thread of the task *(col. 7, lines 63-65)*.

7.   As to claim 8, Hogle teaches wherein the processor resource is a stream of a processor that supports multiple streams *(col. 1, lines 7-9)*.

8.   As to claim 9, Hogle teaches wherein the task registers the routine with the operating prior to invoking the operating system call *(col. 1, lines 21-22)*.

9.   As to claim 10, Hogle teaches notifying the task when a operating system call completes *(col. 5, lines 47-57 and col. 6, lines 15-21)*.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10.   Claims 1-6 and 11-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hogle et al. (hereinafter Hogle) (US 6,560,626 B1) in view of Jones et al. (hereinafter Jones) (US 6,584,489 B1).

11.   As to claim 1, Hogle teaches a method in a computer system for returning a stream to a task executing an operating system call that is blocked, the computer system having a processor with multiple streams, the method comprising:

under control of the operating system executing on a stream, invoking a function provided by the task *(col. 1, lines 21-32)*;

under control of the invoked function, executing that stream *(col. 1, lines 32-59)*; and

under control of the operating system, notifying the task when the operating system call is complete *(col. 5, lines 47-57 and col. 6, lines 15-21)*.

Hogle teaches that thread functions are not available during its blocked state *(col. 1, lines 46-47) but* fails to explicitly teach returning a stream to a task when an operating system call is blocked. However, Jones teaches task scheduling with returning the requesting thread when it is blocked *(col. 27, lines 10-22)*. It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of returning a stream to a task when an operating

system call is blocked because it is desirable to return (or not keep) the threads that are supposed to be blocked.

12.   As to claim 2, Hogle teaches wherein the notifying includes invoking a function provided by the task using a stream of the operating system; and

under control of that invoked function, indicating that the operating system call is complete *(col. 6, lines 15-21)*; and

invoking another operating system call to return the operating system stream to the operating system *(col. 6, lines 15-21)*.

13.   As to claim 3, Hogle teaches wherein the executing of instructions on that stream includes indicating that a thread that invoked the operating system call is blocked and executing another thread on that stream *(col. 7, lines 61-65)*.

14.   As to claim 4, it is rejected for the same reasons as stated in the rejection of claim 1. In addition, Hogle in view of Jones fails to explicitly teach having separate components performing different actions. However, it is well known in the art and it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of components performing different actions because this increases structure and organization.

15.   As to claim 5, it is rejected for the same reasons as stated in the rejection of claim 2.

16.   As to claim 6, it is rejected for the same reasons as stated in the rejection of claim 3.

17.   As to claim 11, it is rejected for the same reasons as stated in the rejection of claim 7. In addition, Hogle in view of Jones fails to explicitly teach having separate components performing different actions. However, it is well known in the art and it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of components performing different actions because this increases structure and organization.

18.   As to claim 12, it is rejected for the same reasons as stated in the rejection of claim 8.

19.   As to claim 13, it is rejected for the same reasons as stated in the rejection of claim 9.

20.   As to claim 14, it is rejected for the same reasons as stated in the rejection of claim 10.

21.   As to claim 15, it is rejected for the same reasons as stated in the rejection of claim 1.

22.   As to claim 16, Hogle teaches wherein the operating system invokes the first function using the stream that will block *(col. 2, lines 18-30)*.

23.   As to claim 17, Jones teaches wherein invoking the first function returns the stream to the user program *(col. 27, lines 10-22)*.

24.   As to claim 18, Hogle teaches wherein the user program selects a thread that is not blocked for execution on the stream *(col. 7, lines 50-65)*.

25.   As to claim 19, Jones teaches wherein the second function schedules for restarting a thread that was blocked on the operating system call that was blocked *(col. 6, lines 51-67)*.

26.   As to claim 20, Jones teaches wherein the second function returns a stream provided by the operating system *(col. 27, lines 10-22)*.

27.   As to claim 21, it is rejected for the same reasons as stated in the rejection of claims 1 and 7. In addition, Hogle teaches executing the operating system call in a user stream of the user program *(col. 6, lines 22-34)*, when a thread making the operating system call is locked, waiting for the operating system call to become unblocked *(col. 1, lines 33-45)*, and under control of a trap handler routine, placing the thread in a blocked pool and selecting another thread to execute on the stream *(col. 2, lines 13-30 and col. 7, lines 63-65)*.

28.   As to claim 22, it is rejected for the same reasons as stated in the rejection of claim 19.

29.   As to claim 23, it is rejected for the same reasons as stated in the rejection of claim 20.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth Tang whose telephone number is (703) 305-5334. The examiner can normally be reached on 8:30AM - 7:00PM, Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (703) 305-9678. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kt
6/8/04

MENG-AL T. AN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100